

REMARKS

Claims 21- 27, 31-33 and 38-42 are now pending. The Office Communication mailed 14 October 2009 raised a series of objections to the specification and claims. In response to these objections the claims and the specification are now amended. Applicants request removal of all objections.

The Office Communication presents detailed explanations as to the Examiner's positions and his basis for sustaining art rejections under Sections 102 and 103. Applicants thank the Examiner for providing these details which have enabled the applicants to provide further amendment and the following argument in support of claim allowance.

All of the examined claims were rejected under Section 102 based on Allon (U.S. 5,539,883) or under Section 103 based on Allon in view of Liu (U.S. 6,574,664). It is again respectfully submitted that the independent claims 21 and 41 provide a basis to allow the application. Accordingly, the following argument is primarily directed to traversal of the rejection of claims 21 and 41 as amended under Section 102.

With regard to claim 21 it is first noted that the first drive device, which is replaced according to the method, is connected to a first node. The step of replacing the first drive device with a replacement drive device is effected "by connecting the replacement drive device to the first node ...". This is different from what is disclosed in the Allon reference. In fact, the distinction results in part from the fact that the Allon reference does not relate to actual physical replacement of devices but, rather, to a "tree" of computers in a network for load balancing. Thus, if a specific computer is not responsive, (i.e., tree maintenance is required to detect dead nodes per col. 8, lines 34-39), then new nodes (e.g., computers in the network) are added to the tree of computers used for load balancing. In contrast to the Allon reference, claim 21 is directed to replacing drive devices. This is now made more clear by requiring that the replacement drive of claim 21 is connected to the same node as the first drive device which is being replaced.

Another distinction between claim 21 and the prior art relates to the step of operating the replacement drive device

to identify the first node to which the replacement drive is assigned and to identify other devices including the second device;

The rejection cites col. 7, lines 1-6 and col. 8, lines 54-55 of Allon but, at best, this is a strained reading of the prior art which is taken out of context. Specifically, the citation concerns building a tree for load balancing among computers (see abstract) and tree maintenance wherein when a computer is rebooted or added to a network it looks for a parent. As explained at col. 7, lines 1 – 6, the term “parent” is used to refer to a computer of lower rank to which an upward link can be formed. This has no relation to the claim recitation of a “node to which the replacement drive is assigned” and the amendment requiring that the replacement drive device be to the first node makes it inconsistent to read the citations on the claim language.

Still another distinction between claim 21 and the prior art relates to the step of operating the replacement drive device to receive information from the second device. With the information received from the second device,

the replacement drive device determines (i) the number of connections of the first node and (ii) a predefined hierarchy of the connections and (iii) the connection with which the replacement drive device is connected to the first node and, and (iv) for the first node, other connections which are connected to other nodes or others of the plurality of devices;

The rejection cites col. 10, lines 25 – 34 and col. 5, lines 22 – 32 of Allon. Again, the citations are applied out of context because they refer to tree generation for load sharing and the information referenced is expressly described as “propagating load information up and down the tree” of computers. See, also, col. 9, lines 6 – 27. None of the citations in the Allon reference concern a replacement drive device connected to the first node (i.e., the same node as the first drive device) and the citations do not disclose determining the number of connections that a first node has. Rather, the citation at col. 5, lines 22-32 refers to the number of links in the tree separating one computer from another computer. Counting the number of “links” between computers is not the same as determining the number of connections at a node. Also, there is no disclosure concerning the “connection with which the replacement drive device is connected to the first node ...”

For at least these reasons the rejection of claim 21 (amended) under Section 102 should now be withdrawn.

Independent claim 41 also defines patentable subject matter. For example, no combination of the prior art results in a reconfigurable network for which the claimed method identifies an order of devices in the network, thereby enabling determination of relative spatial arrangements among the devices. The rejection states that the Allon reference discloses this

subject matter, but, instead, the Allon reference concerns assigning a unique rank among computers in a network in order to build a tree for load balancing. See col. 7, lines 1 – 6 and the abstract. This has no relation to determining spatial arrangements. The rejection references logical links in a hierarchical tree structure (see page 19 of the office communication) but this is not a spatial arrangement. Rather, it relates to a reconfigurable tree as explained at col. 7, lines 7 – 49.

The method of claim 41 specifically requires, in a network configured according to a first hierarchical arrangement: a first of the devices performing a series of determinations including:

“determining the number of connections of the first node, ... and the connection with which the device is connected to the first node ...”

The Allon reference is applied by misreading the number of links separating computers (col. 5, lines 25-27) as the number of connections at a particular node.

Claim 41 also requires

“determining for the first node other connections which are connected to other nodes or devices ...”

The rejection contends as a *fact* “the fact that this node is enabled to ascertain the number of connections of its parents (supra) ...” This conclusion is apparently based on the above-noted misreading of “links” as connections. The rejection is therefore in error. Allowance of claim 41 is requested.

Applicants also urge that the dependent claims further distinguish over the prior art. For example, claim 38 applies the method of claim 21 to controls, operator units, drives and actuators as the devices. The rejection refers to computers linked in a network of similar devices, but this is not sufficient for the claimed combination as amended.

As another example, claim 40 applies the method of claim 21 to a network installed in a rail transport system containing traction vehicles and cars as the devices. The rejection references a cluster arrangement at col. 12 lines 31 – 40 of the Allon reference, but this generic description is not the same as what is claimed. For example, at col. 12, line 29 it is stated that a cluster configuration is based on assignment of ranking files to computers. Nothing in this citation relates to the subject matter of claim 40.

It is also submitted that the dependent claims each further define patentable subject matter.

Conclusion

Based on the above amendments the application now further distinguishes over the prior art and conforms with all requirements under Section 112. The claims each present allowable subject matter and the application is in condition for allowance. The Commissioner is hereby authorized to charge any appropriate fees due in connection with this paper, including the fees specified in 37 C.F.R. §§ 1.16 (c), 1.17(a)(1) and 1.20(d), or credit any overpayments to Deposit Account No. 19-2179.

Respectfully submitted,

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